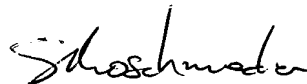


REMARKS

Claims 1-10, 12-14 and 16-19 are active in the present application. Claims 11 and 15 have been cancelled. Claims 16-19 are new claims. Support for the new claims is found in the original claims. No new matter is believed to have been added by this amendment. An action on the merits and allowance of claims is solicited.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,  
MAIER & NEUSTADT, P.C.



Norman F. Oblon  
Attorney of Record  
Registration No. 24,618

Stefan U. Koschmieder, Ph.D.  
Registration No. 50,238



**22850**

(703) 413-3000  
Fax #: (703)413-2220  
SUKOS/rac  
I:\atty\SUKOS\220952US-PR.wpd

**Marked-Up Copy**

Serial No: \_\_\_\_\_

Amendment Filed on: \_\_\_\_\_

4-5-2002

IN THE TITLE

Please delete the title and replace with the following title.

[PREPARATION OF POLYISOBUTENYLPHENOL-CONTAINING MANNICH ADDUCTS]

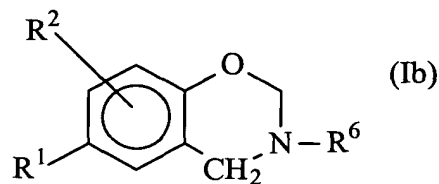
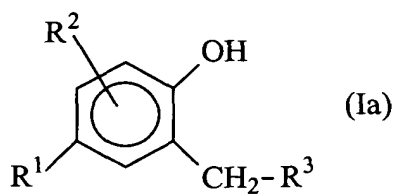
--METHOD FOR PRODUCING MANNICH ADDUCTS THAT CONTAIN POLYISOBUTYLENE PHENOL--

IN THE CLAIMS

2. (Amended) [A] The process as claimed in claim 1, wherein the amine [used] is 3-(dimethylamino)-n-propylamine, di[3-(dimethylamino)-n-propyl]amine, dimethylamine, diethylamine, di-n-propylamine or morpholine.

3. (Amended) [A] The process as claimed in claim 1, wherein, in step c), the adduct [used] is an amination of formaldehyde with a secondary amine[, ] selected from the group consisting of di-C<sub>1</sub>-C<sub>8</sub>-alkylamines whose alkyl groups may be substituted by an N(C<sub>1</sub>-C<sub>4</sub>-alkyl)<sub>2</sub> group[, ] and cyclic amines[, ] which have 4 to 6 carbon atoms and whose cyclic structure may be interrupted by O and/or N-C<sub>1</sub>-C<sub>4</sub>-alkyl.

4. (Amended) [A] The process as claimed in [any of the preceding claims] Claim 1, wherein an adduct mixture is obtained which comprises at least 40 mol% of compounds of the formula Ia and/or Ib,

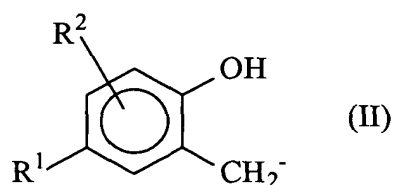


where

$R^1$  is a terminally bonded polyisobutenyl radical,

$R^2$  is H,  $C_1$ - to  $C_{20}$ -alkyl,  $C_1$ - to  $C_{20}$ -alkoxy, hydroxyl, a polyalkylenyl radical or  $CH_2NR^4R^5$ , where  $R^4$  and  $R^5$  have the meanings stated below, and

$R^3$  is  $NR^4R^5$ , where  $R^4$  and  $R^5$ , independently of one another, are [selected from] H,  $C_1$ - to  $C_{20}$ -alkyl,  $C_3$ - to  $C_8$ -cycloalkyl and  $C_1$ - to  $C_{20}$ -alkoxy radicals which may be interrupted and/or substituted by [heteroatoms selected from] N and O heteroatoms, and phenol radicals of the formula II



where  $R^1$  and  $R^2$  are as defined above;

with the proviso that  $R^4$  and  $R^5$  are not simultaneously H or phenol radicals of the formula II; or  $R^4$  and  $R^5$ , together with the N atom to which they are bonded, form a 5-, 6- or 7-membered cyclic structure which has one or two [heteroatoms selected from] N and O heteroatoms and may be substituted by one, two or three  $C_1$ - to  $C_6$ -alkyl radicals; and

$R^6$  is a radical  $R^4$  or  $R^5$  other than H.

5. (Amended) [A] The process as claimed in [any of the preceding claims] Claim 1, wherein a Mannich adduct having a polydispersity of from 1.1 to 3.5 is obtained.

6. (Amended) [A] The process as claimed in [any of the preceding claims] Claim 1, wherein, in step c), the reaction product from a) is reacted with [an adduct which is obtained from] at least one adduct of amine and formaldehyde, an oligomer of formaldehyde, a polymer of formaldehyde or a formaldehyde equivalent by reacting the two reactants for at least 15 minutes at above +15°C[ is used] to prepare the adduct.

7. (Amended) [A] The process as claimed in [any of claims 1 to 6] Claim 1, wherein the reaction mixture from b) or c) is fractionated by column chromatography over an acidic stationary phase by multistage elution with

- at least one hydrocarbon and then
- at least one basic alcohol/water mixture.

8. (Amended) [A] The process as claimed in claim 7, wherein the basic alcohol/water mixture [used] is a mixture of

- a) from 75 to 99.5% by weight of at least one C<sub>2</sub>- to C<sub>4</sub>-alcohol,
- b) from 0.4 to 24.4% by weight of water, and
- c) from 0.1 to 15% by weight of at least one amine which is volatile at room temperature.

9. (Amended) [A] The process as claimed in [any of the preceding claims] Claim 1, wherein [the] an adduct mixture obtained includes from 0 to 20 [, preferably 1 to 15,] mol% of polyisobutenylphenols from reaction step a) which are not reacted further.

10. (Amended) A Mannich adduct [obtainable] obtained by

- a) alkylation of a phenol with polyisobutene having more than 70 mol % of vinylidene double bonds and a number average molecular weight of from 300 to 3000 at below about 50°C in the presence of an alkylation catalyst;
- b) reaction of the reaction product from a) with formaldehyde, an oligomer or a polymer of formaldehyde and at least one amine which has at least one secondary amino function and no primary amino function.

12. (Amended) An additive concentrate containing, in addition to conventional additive components, at least one Mannich adduct as claimed in claim 10 in amounts of from 0.1 to 99.9% by weight[, preferably 0.5 to 80% by weight].--

11. (Cancelled).

15. (Cancelled).

16. (New).

17. (New).

18. (New).

19. (New).